

METHOD FOR CREATING FLIP-CHIP CONDUCTIVE-POLYMER BUMPS USING PHOTOLITHOGRAPHY AND POLISHING

Abstract

A method for fabricating a flip-chip semiconductor device having plural conductive polymer bumps includes forming plural molds on a substrate using a photolithographic technique; filling the molds by applying and spinning a layer of conductive polymer material onto the substrate; polishing the conductive polymer material layer to remove excess conductive material from a surface of the substrate; and stripping the plural molds from the substrate to reveal the plural bumps. In various aspects of disclosure, either positive resist or negative resist may be used. The electrical contact resistance compares favorably with squeegee-based bumps; there is an improvement in the contact resistance of the bumps patterned using polishing techniques in comparison to that of squeegee-based conductive polymer bumps.